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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,630	01/12/2004	Christian Jackson	IJ0049USNA	9393

23906 7590 07/06/2006

E I DU PONT DE NEMOURS AND COMPANY  
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BARLEY MILL PLAZA 25/1128  
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WILMINGTON, DE 19805

EXAMINER

MARTIN, LAURA E

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/755,630

Applicant(s)

JACKSON ET AL.

Examiner

Laura E. Martin

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 5, 6, 8, 10, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuragi et al. (EP 1125994) in view of Koitabashi et al. (US 20020044187).

As per claims 1 and 10, Katsuragi et al. teaches an inkjet ink set and method of inkjet printing a substrate comprising the steps of jetting an ink set onto a substrate, the ink set comprising: a first ink comprising a self-dispersing pigment colorant dispersed in a first aqueous vehicle [0020] and [0057]; and a fixing fluid comprising a soluble copper salt in a second aqueous vehicle [0049].

As per claims 5, 6, and 17, Katsuragi et al. teaches the ink set and method of claims 1 and 10 further comprising at least four differently colored aqueous pigmented inks, at least one of the colored ink being a first ink ([0051] and [0053]).

As per claims 1 and 10, Katsuragi et al. does not teach the first ink comprising a multivalent cation.

As per claims 8 and 19, Katsuragi et al. does not teach self-dispersing pigment being carbon black pigment comprising anionic hydrophilic moieties.

As per claims 1 and 10, Koitabashi et al. teaches a first ink comprising a multivalent cation (column 4, lines 50-55).

As per claim 8 and 19, Koitabashi et al. teaches self-dispersing pigment being carbon black pigment comprising anionic hydrophilic moieties [0080] and [0188].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set and method taught by Katsuragi et al. with the disclosure of Koitabashi et al. in order to create a more stable ink composition.

Claims 2, 3, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuragi et al. (EP 1125994) and Koitabashi et al. (US 20020044187) in view of Takeda et al. (US 5188891)

Katsuragi et al. as modified teaches an ink set. Katsuragi et al. also teaches a dispersant (commonly applied to ink as a binder) having an average molecular weight in the range of 1000 to 20000 [0055]; however, it does not teach a soluble polymer binder substantially linear anionic polymer or the first ink being a self-dispersing carbon black pigment comprising anionic hydrophilic moieties.

Takeda et al. teaches soluble polymer binder substantially linear anionic polymer or the first ink being a self-dispersing carbon black pigment comprising anionic hydrophilic moieties.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set and method taught by Katsuragi et al. as modified with the disclosure of Takeda et al. in order to provide a more stable ink composition.

Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuragi et al. (EP 1125994) in view of Koitabashi et al. (US 20020044187).

As per claims 7 and 18, Katsuragi et al. as modified discloses the claimed invention except for the soluble copper in the fixing fluid present at a level of at least 0.05 mole/L. It would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the range of concentrations, since it would have been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller* 105 USPQ 233.

Claims 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuragi et al. (EP 1125994) and Koitabashi et al. (US 20020044187), and further in view of Yanagimoto et al. (US 20020129739).

Katsuragi et al. as modified teaches a self-dispersing pigment; however, it does not disclose anionic hydrophilic moieties being carboxyl groups.

Yanagimoto et al. discloses anionic hydrophilic moieties being carboxyl groups [0029].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set and method taught by Katsuragi et al. as modified with the disclosure of Yanagimoto et al. in order to create a higher quality ink with better stability.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuragi et al. (EP 1125994) and Koitabashi et al. (US 20020044187) in view of Katsuragi et al. (EP 1191077).

Katsuragi et al. ('994) teaches the method of claim 10; however, it does not teach the fixing fluid jetted onto the substrate before the first ink, and the area of the substrate covered by the fixing fluid is substantially covered by the first ink; the area fill of the fixing fluid is less than the area fill of the first ink; and the fixing fluid is applied at an area fill of less than about 60% of the area fill of the first ink.

Katsuragi et al. ('077) teaches the fixing fluid jetted onto the substrate before the first ink, and the area of the substrate covered by the fixing fluid is substantially covered by the first ink [0071]; the area fill of the fixing fluid is less than the area fill of the first ink [0073]; and the fixing fluid is applied at an area fill of less than about 60% of the area fill of the first ink [0073].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Katsuragi et al. ('944) as modified with the disclosure of Katsuragi et al. ('077) in order to improve printing quality.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin

 6/23/06  
**MANISH S. SHAH**  
**PRIMARY EXAMINER**